

The right mower for the right job

Mulching mowers save time, money, government hassles

by Rick Rodier

■ There was a time when turf managers and landscape professionals could bag grass clippings, haul or pay someone else to haul them to a local landfill and have a gratifying, finished look.

However, more state and local governments are banning yard waste disposal from landfills, but the after-cut appearance of the grass you're mowing remains as important as ever. This leaves you with few options for disposing of grass clippings: bagging and hauling to a diminishing and increasingly expensive number of disposal sites; composting or leaving clippings on the turf.

As the cost of collecting and disposing of grass clippings rises, mulching mowers seem like one of the best options. There are many benefits to mulching grass clippings. Agronomic benefits result from returning clippings to the turf. Efficiency is improved because the mowing process is not interrupted to bag and compost clippings. And transportation charges are automatically eliminated.

Agronomic benefits—Dr. James R. Watson, past president of the International Turfgrass Society and a recognized green industry expert, says mulching helps keep the plant root and crown areas cool, aids in proper clipping decomposition and conserves moisture, which enhances overall growth and photosynthesis.

"The strongest benefit," says Watson, "is pure economics. Mulching, rather than bagging, saves time, labor and money. Mulch

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Advanced mulching units mulch leaves, twigs and other material and give a quality cut.



Industrial rotary mowers: not just for tough roadsides

by Ian Burden

■ Wide, industrial rotary mowers aren't just for tough roadside grasses anymore.

Within the last five years, technical advances have allowed rotary mowers to be used in many fine turf situations, including • golf courses, • industrial parks, • public school and university grounds, • public parks and • other areas where a smooth finish is required.

The addition of multiple, small, high-speed blades has made roadside rotaries capable of fine finishing cuts. (Most roadside rotary mowers use only one large, relatively slow-cutting blade in each head.)

For a comparatively low price, you can purchase a finishing rotary mower that will cut more acres per hour than other comparable equipment. This type of rotary mower will also very likely require less maintenance: the blades are easier to sharpen and it has fewer, less expensive parts.

However, when choosing a finishing rotary mower for smooth-cut mowing, be sure to take the necessary time to educate yourself on the various features of the mower to make sure you get a machine that will function properly and leave a finish that you will be proud to have. Here are a few purchasing points:

Blades—They should be relatively thin and sharp, and have

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Small, high-speed blades allow rotary mowers to be used in fine turf mowing.

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also contributes essential nutrients to the turf and can reduce total fertilizer applications by as much as 25 to 35 percent."

According to research by the Toro Co., at least 20 states have enacted bans limiting or restricting yard waste—such as grass, leaves and tree and brush trimmings—from their landfills. Other states, cities and counties have bans scheduled to go into effect soon.

Composting an option?—Composting is another way of disposing of clippings, but it is not cost-free. Bagging clippings creates greater wear and maintenance costs on machinery. In addition, collecting clippings and bringing them to a compost site means increased time, labor and fuel costs, and is an overall inconvenience.

Customers often need to be educated about composting, which may take time and effort, as well. And compost piles must be properly watered and aerated to prevent odor and fungal growth problems.

Some operators simply leave clippings on the lawn using side- and rear-discharge mowers. However, the after-cut appearance resulting from discharge mowers often is unacceptable to turf managers, landscape professionals and their customers.

Because of the financial burden and the environmental and aesthetic concerns associated with clipping disposal, many industry experts agree that bagging will become obsolete. Allen Blakey, with the National Solid Wastes Management Association, believes mulching will become the most practical option for grass clipping disposal.

"The most inexpensive method of clipping disposal is to simply leave [the clippings] on the lawn. You can pay more and have the

clippings hauled to a separate composting facility," says Blakey, "or you can pay to dump them in a landfill if you can find one that will take yard waste."

Mulcher retrofit works—Joe Beukema, foreman for Tender Lawn Care, Grand Rapids, Mich., manages lawns for both commercial and residential customers. His company realized tremendous savings in labor and time after it retrofitted several side-discharge mowers with mulching decks two years ago.

"Before the retrofit, my crews had to cut heavy grass three or four times so that clippings were small enough to leave on the lawns," says Beukema. "With our current mulching decks, we cut a maximum of two times."

Design improvements—The first commercial mulching mowers were released in the 1980s, and were actually conventional mowers converted to mulching mowers. Using a heavy metal plate, the side or rear-discharge chute on the mowers were blocked in an attempt to create a mulching effect.

Mulching units have steadily improved since they first came on the market. Today's units can offer a much better-looking and more consistent quality of cut in most conditions. What has made the difference is a marked improvement in engineering and design. Toro's Guardian recycler deck was placed on the market in 1992, as one of the first dedicated mulching decks to use a patented chamber, deflectors and special blade design. These elements, working together, direct the clippings back into the turf, where they will decompose.

Mulching kits and dedicated mulching decks are the two types of mulching equipment available. Decks for both range from 21- to 72-inch with horsepower to match.

Mulching decks require more horsepower than conventional mowers because of the increased cutting volume. Blades may need to be sharpened more often, and more demand is placed on components. Fertilizer ratios may need to be adjusted to accommodate the soil nutrients provided by the clippings.

Mulching kits—Mulching kits can vary greatly in design. Some simply close off the discharge chute with a plate, as with the early mulching models. More sophisticated kits come with plates, cutting chamber and blades, and can offer results similar to a dedicated mulching mower.

Of the available mulching products, mulching kits are the least expensive and

Before you buy

- Select a mulching mower based on needs, expectations and budget.
- Analyze the type of grass you will be cutting; what kind of after-cut look is required? Are clumping and windrowing allowed, or is neatness essential.
- If you mow in wet or heavy turf, will you still be able to meet after-cut standards?
- Determine the deck, chamber and blade design best suited to the turf conditions and needs you face.

—R.R.

most versatile. The convertible mowers can mulch, side-discharge or bag. Performance aside, most of these attachments offer "zero discharge."

Plate-only mulching kits pulverizing clippings, but they do not direct the cut grass out of the machine in an orderly way. As a result, the mower often bogs down, especially in wet, heavy grass, and clippings are more likely to stick in the deck, causing noticeable clumping, windrowing and deposits in reverse. In short, while relatively inexpensive and versatile, mulching kits provide a lower quality of cut.

Most dedicated mulching mowers provide a good after-cut appearance under normal conditions. These units feature an enclosed, conventional cutting deck design with no discharge chute. The method of clip processing varies by unit and so will the results, particularly in wet and heavy turf. The enclosed deck is more durable than a traditional mower deck with a mulching kit attachment.

Some dedicated decks have limitations similar to most mulching kits. Many still fail to provide an orderly way for clippings to escape the deck. This creates problems with power bogging and clippings that clog the cutting chamber.

Closed systems are also subject to internal damage from debris. Unfortunately, most cutting chambers on dedicated mulching units are welded to the deck housing and cannot be replaced. Finally, the after-cut appearance can be less than satisfying.

To overcome these problems, the most advanced mulching units have a key feature: an air-flow design that provides uniform cutting and dispersion.

—The author is a product manager for The Toro Co.

The benefits of mulching mowers

- Mulching mowers can operate effectively in wet, high or heavy turf-grass.
- Mulching does not cause thatch, disease or weed problems.
- Commercial riding mowers with mulching decks operate effectively at "normal" cutting speeds.
- Converted conventional mowers do not offer the same result as dedicated mulching decks.
- The number of times and how a blade of grass is cut can determine the effectiveness of a mulching unit.

—R.R.



Whatever mower you decide to buy, take the time to educate yourself in regards to the features.

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adequate updraft to suck up the grass that is pushed down by the tractor wheels. However, excessive updraft will severely increase horsepower requirements and increase cost of fuel, labor and maintenance.

Make sure that the blades are at least 3/8-inch thick. If they are too thin, they will bend if an object is struck and the mower will leave a streak in the grass. The blades in the individual mower heads should overlap at least one inch.

Decks—The multiple mower sections should overlap at least six inches to prevent streaking. Check to make sure the spindle mounting plate is at least as wide as the blade, necessary to avoid lateral instability.

A constant velocity (CV) driveline maintains constant driveshaft speed while turning the tractor and mowing unit, and will eliminate a great deal of wear on the driveline and gearbox by preventing slowdown and speedup of the driveline during turns. Also, insist that your mower have a slip clutch to save the driveline from major damage is a large object is struck.

Belts—You can get yourself into a lot of trouble if you choose a mower with inadequate or unmatched drive belts. All industrial mowers with idler pulleys (and most do) should have matched, computer-designed belts.

Matched belts are provided by the belt manufacturer. They are cut from the same belt material to ensure that they have the same resistance to stretching and wear. The computer design provides the proper size and type belt and the most efficient pulley sizes to provide long economical belt life.

Single belts used by most mower manufacturers (rather than double matched

belts) will result in a seriously shortened belt lifespan and untimely and expensive parts replacement.

Make sure that the belts are easy to adjust and replace when necessary.

Other factors—A hydraulic mechanism to raise the wings for transportation to and from the worksite should be standard. Tires should be at least 26.00 x 12.00 x 12 pneumatic, flotation type. This will provide higher flotation, greater weight distribution and less turf compaction. The hydraulics and the mowing unit should be quick-disconnect types.

Make sure that the spindle and housing have seals that will keep the oil in and the trash out. It should be easy to lubricate, and the blade shaft should be at least 1-1/4-inch in diameter with a blade mounting plate as wide as the blade.

To avoid scalping on uneven terrain, your mower should be equipped with four gauge-wheels (wheels that will gauge the depth of cut) on each of the individual mowing units. An anti-scalping roller, three inches in diameter by 12 inches wide, should also be mounted on the front of each mowing unit.

Safety is a consideration. Are all the moving parts on the deck fully shielded? Is there a cover on the gearbox? When the wings are folded up, do they have safety latches to keep them in place?

The manufacturer should have knowledgeable and capable customer service and technical service personnel available.

—The author is vice president of marketing for Alamo, Seguin, Texas. Alamo manufactures and distributes McConnell, Mott, Terrain King and Triumph power equipment.

Equipment ready for spring?

Preventive maintenance is an essential part of extending the service life of commercial equipment, as well as avoiding costly repairs and down time. The following preventive maintenance is recommended for all commercial equipment as part of a yearly spring check-up.

To prepare for the spring season, start with a thorough cleaning. Give the machine a good looking over for loose nuts and bolts, loose wires, metal fatigue and more. Repair it as needed.

For large walk-behind and riding mowers:

- ✓ Change and gap spark plugs.
 - ✓ Change engine oil and filter.
 - ✓ Clean carburetor or rebuild if necessary. Adjust to manufacturer's specifications.
 - ✓ Clean air and fuel filters or replace if necessary.
 - ✓ Remove engine shrouds on all air cooled engines, clean any grass and oil build up of shrouds and engine cooling fans.
 - ✓ Inspect all cable linkages, lube and adjust.
 - ✓ Inspect all mower spindles, check bearing for wear and lube.
 - ✓ Sharpen and balance blades or replace if necessary.
 - ✓ Adjust and lube all cables.
 - ✓ Adjust governor and set RPMs to factory specifications.
 - ✓ Inspect all belts, pulleys and belt guides; adjust as needed.
 - ✓ Lube and adjust chains if applicable.
 - ✓ Check the condition of all fuel and hydraulic lines.
 - ✓ Check caster wheel bushings and bearings for wear; replace or lube as needed.
- On machines equipped with the Peerless 4 or 5 speed transmissions:**
- ✓ Inspect the output shaft busings for wear, replace if necessary and refill transmission with Bentonite grease.
 - ✓ Set tire pressure and level the deck.
 - ✓ Check and adjust tracking.
 - ✓ Check all safety switches and guards to make sure they are installed and working properly.

—Ron Weingartz, General Manager of Weingartz Supply Co., Inc., writing in *The Landsculptor*.